

What Is Claimed Is:

1. An air conditioning system for automobiles including an air conditioning case that has a center opening, side openings, a defrost opening, and a floor opening formed therein, and a mode door that is mounted in the air conditioning case and that opens and closes the openings depending on a mode, wherein the mode door is a rotating door comprising:

rotating shafts rotatably supported on two side walls of the air conditioning case;
an outer circumferential wall extended in the direction of the rotating shafts;
a center aperture and side apertures individually formed on an upper surface of the outer circumferential wall;

connectors for connecting the outer circumferential wall and the rotating shafts to thereby define side apertures; and

an air inflow opening formed to allow the introduction of air between the outer circumferential wall and the connectors,

wherein paths communicating with the side apertures are formed in the air conditioning case such that air introduced into the mode door is constantly discharged through the side openings via the side apertures.

2. The air conditioning system of claim 1, wherein the paths are formed by extending the side openings outwardly in the direction of a length of the mode door.

3. The air conditioning system of claim 1, wherein the outer circumferential wall of the mode door is substantially in the shape of a circular arc.

4. The air conditioning system of claim 1, wherein the side apertures are formed adjacent to both sides of the center aperture.

5. The air conditioning system of claim 1, wherein air leakage preventing means is provided in the mode door and the air conditioning case.

5 6. The air conditioning system of claim 5, wherein the air leakage preventing means comprises at least one coupling part and at least one receiving part for receiving the at least one coupling part, the at least one coupling part and the at least one receiving part being formed in side surfaces of the mode door and opposing surfaces of the air conditioning case.

10 7. The air conditioning system of claim 6, wherein the at least one coupling part is a protrusion formed in the side surfaces of the mode door, and the at least one receiving part is a groove formed in the air conditioning case to receive the protrusion of the mode door.

15 8. The air conditioning system of claim 6, wherein the at least one coupling part is a stepped portion formed in the side surfaces of the mode door, and the at least one receiving part is a groove for receiving the stepped portion of the mode door.

20 9. The air conditioning system of claim 1, wherein a door cover is included on the outer circumferential wall of the rotating door, the door cover including ventilation apertures communicating with each of the center opening and the side openings, ventilation apertures communicating with the defrost opening and the floor opening, a sealing member mounted to a surface of the door cover contacting the outer circumferential wall of the rotating door, and fixing means secured to an inner area of the air conditioning case.

25 10. The air conditioning system of claim 9, wherein the fixing means are protrudent fixing pins formed from side walls of the door cover.